

HOLOTHURIA (PLATYPERONA) ROWEI, A NEW
SEA CUCUMBER FROM FLORIDA
(ECHINODERMATA: HOLOTHUROIDEA)

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Abstract.—*Holothuria (Platyperona) rowei*, new species, is described on the basis of a single specimen from Key Largo, Florida. There are now four species in the subgenus *Platyperona*; three of these occur in the Atlantic Ocean.

The subgenus *Holothuria (Platyperona)*, in the sense of Rowe (1969), currently comprises three species, the type-species *H. (P.) difficilis* Semper, 1868 from the Indo-Pacific (Rowe, 1969), *H. (P.) sanctori* Delle Chiaje, 1823 from the Mediterranean, eastern Atlantic, St. Helena and Ascension Islands (Pawson, 1978), and *H. (P.) parvula* from the western Atlantic (Deichmann, 1930). While checking identifications of western Atlantic holothurians in the collections of the National Museum of Natural History, one of us (CAG) found that a single specimen formerly identified as *H. (P.) parvula* actually represents a new species, which is described below.

Family Holothuriidae Ludwig, 1894

Holothuria (Platyperona) rowei, new species

Fig. 1

Diagnosis.—Tables with approximately 20 perforations in disc; spires usually thorny, tapering to form blunt points. Buttons typically with 3 pairs of perforations, and with small knobs lying on or near central longitudinal ridges. Edges of buttons thickened to form a conspicuous ridge.

Material examined.—HOLOTYPE USNM E9469, Key Largo, Florida; collected summer, 1950 by F. Lyman, 1 specimen.

Etymology.—This species is named for Dr. F. W. E. Rowe of the Australian Museum, who has contributed much to our knowledge of the holothuriid holothurians.

Description.—Single specimen in fair condition, cylindrical, strongly contracted; total length 32 mm, diameter approximately 8 mm. Mouth antero-ventral, surrounded by approximately 20 tentacles; anus posterior. Conspicuous tube feet scattered on ventral surface, not restricted to radii; dorsal feet less numerous papilliform. Color in alcohol variegated light brown. Genital caeca well developed; other details of internal anatomy not determined.

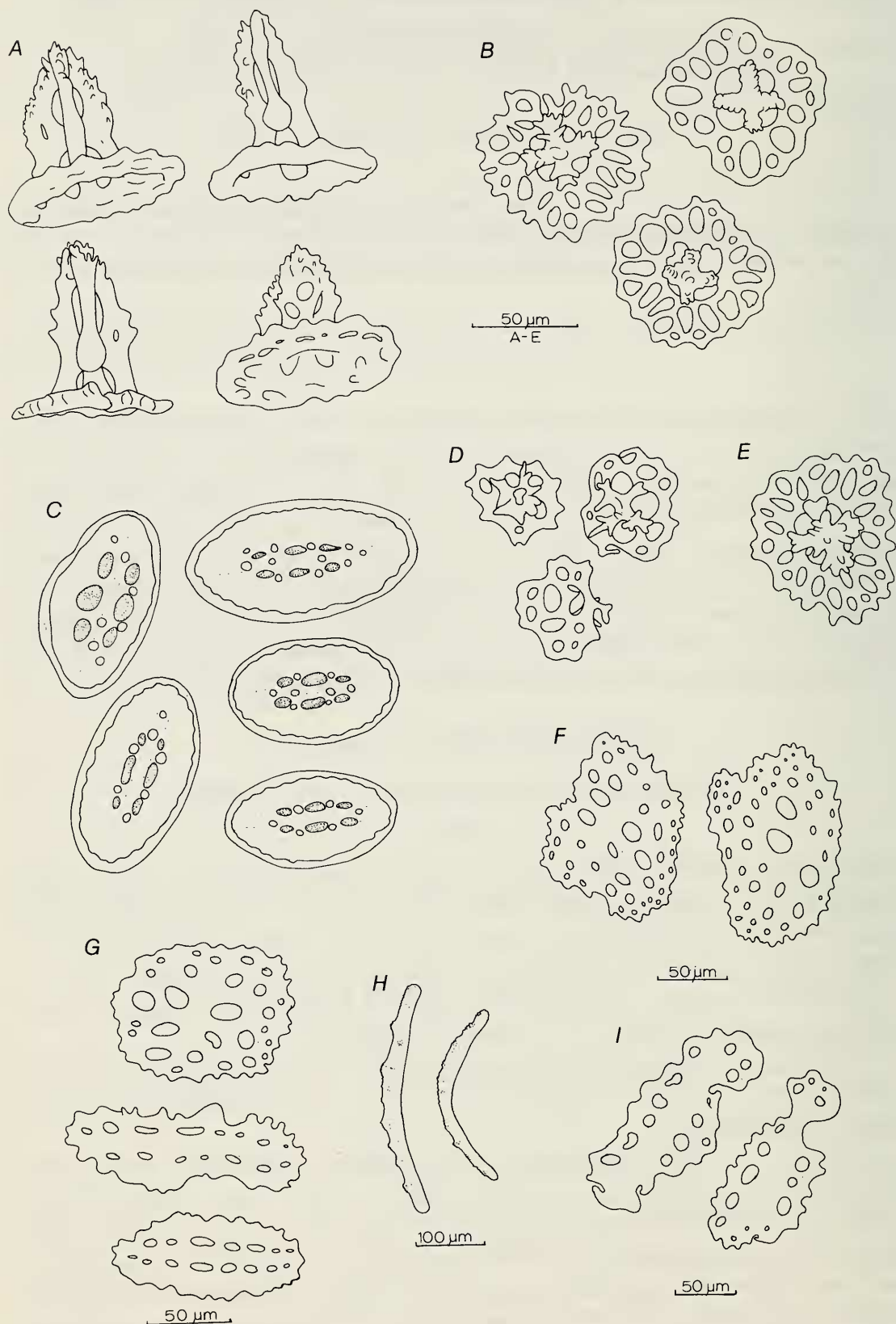


Table 1.—Comparison of dimensions (in μm) of body wall ossicles in the three Atlantic species of *Holothuria* (*Platyperona*). Specimens studied approximately equal in size.

	<i>H. (P.) parvula</i>	<i>H. (P.) sanctori</i>	<i>H. (P.) rowei</i>
<i>Tables</i>			
Mean disc diameter	72	71	68
Range	52–88	64–76	60–80
Mean spire height	47	48	60
Range	32–64	36–68	44–64
<i>Buttons</i>			
Mean length	101	143	100
Range	92–108	120–146	80–116
Mean width	44	64	58
Range	40–48	56–76	48–72

Ossicles in dorsal and ventral body wall numerous tables and immense numbers of buttons. Tables (Fig. 1A, B) with circular discs carrying approximately 20 circular to angular perforations. For dimensions of tables see Table 1. In some tables 12 perforations larger than others. Spire elongate, thorny, tapering to a blunt point; 1 crossbar usually present. Buttons elongate oval (Fig. 1C), commonly with 3 pairs of perforations, the perforations opposite each other, not alternating. Small knobs always present on buttons, lying on or near weakly defined central longitudinal ridge. Edge of button with distinctive thickened rim, with scalloped inner margin. In some buttons, rim may appear as series of bead-like knobs. For dimensions of buttons see Table 1.

Ventral tube feet with conspicuous endplates approximately 250 μm in diameter. Walls of feet contain tables (Fig. 1E), often with more perforations than tables in body wall. Also present in walls are typical buttons, and perforated plate-like rods (Fig. 1G). Dorsal feet lack endplates. Walls of dorsal feet with typical tables, buttons, and numerous curved plates (Fig. 1F) with up to 100 perforations. Near distal extremities of feet, plates supplanted by perforated rods (Fig. 1I), present in small numbers.

Tentacle stems and digits with curved rods enormously variable in length

Fig. 1. *Holothuria* (*Platyperona*) *rowei*: A, Tables from body wall, in profile view; B, Discs of tables from body wall; C, Buttons from body wall; D, Rudimentary tables from tentacle stem; E, Table from ventral tube foot; F, Curved perforated plate from dorsal tube foot; G, Plate-like rods from ventral tube foot; H, Rods from tentacle stems and digits; I, Perforated rods from near distal extremities of dorsal tube foot.

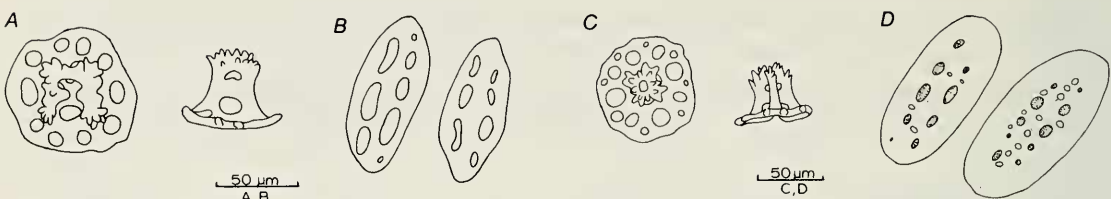


Fig. 2. A, B, Tables and buttons from body wall of *H. (P.) parvula* (Selenka); C, D, Tables and buttons from body wall of *H. (P.) sanctori* Delle Chiaje.

(40–500 μm long). Inner surfaces of rods smooth, outer surfaces with clusters of minute prickles (Fig. 1H). Also present in stems are rudimentary tables (Fig. 1D) with few perforations and short spires.

Remarks.—This new species resembles both *H. (P.) sanctori* and *H. (P.) parvula* in some respects, although it differs strikingly in possessing thickened edges on the buttons and in having tables with tapering spires rather than with abruptly truncated spires (see Figs. 1A–C and 2A, 2C). The buttons of *rowei*, like those of *sanctori* (Fig. 2D), carry small knobs, but the buttons of the former species are considerably smaller than those of *sanctori* (Table 1). The buttons of *rowei* approach in size those of *parvula* (Fig. 2B) but, as Deichmann has pointed out, the perforations in *parvula* buttons are alternating, not opposite, the buttons lack knobs, and they are narrower than those of *rowei* (Table 1).

The holotype of *rowei* is sexually mature, as were the specimens of *sanctori* and *parvula* examined. It is therefore not feasible to dismiss the specimen described here as a juvenile of a known species.

The 4 species of the subgenus *Holothuria* (*Platyperona*) are apparently closely related; they may be distinguished as follows:

- 1. Buttons always with thin smooth edges; central knobs present or absent 2
- Buttons with thickened, scalloped or knobbed edges and few central knobs *H. (P.) rowei*, new species
- 2. Buttons smooth, always lacking small central knobs 3
- Buttons usually with small central knobs. Eastern Atlantic and Mediterranean *H. (P.) sanctori* Delle Chiaje
- 3. Relatively narrow buttons (width : length = 0.44:1); western Atlantic *H. (P.) parvula* (Selenka)
- Relatively broad buttons (width : length = 0.56:1); Indo-Pacific ...
..... *H. (P.) difficilis* Semper

Literature Cited

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